June 10, 2005 Vol. 44, No. 13

Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

http://www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html

Explore. Discover. Understand.

Troops in Iraq show support for Return to Flight

Governorate Support Team proud of Bill McQuade's dedication

By Cheryl Mansfield
Staff Writer

You could normally find NASA engineer Bill McQuade at the Kennedy Space Center, where he works on the fuel cells that will power the Space Shuttle Discovery during its Return to Flight mission. But as the work continues on Discovery, McQuade is half a world away filling a far different role.

He's in Baghdad, helping to restore legal order as Lieutenant Colonel William McQuade, a reservist with the U.S. Army's Judge Advocate General Corps.

But even though he's far from home, the Space Shuttle isn't far from his heart. So McQuade and those who serve with him in Iraq have found a way to be part of Discovery's upcoming mission to the International Space Station.

Inspired by a January meeting with the STS-114 astronauts at Kennedy just before deploying to Iraq, McQuade and his Governorate Support Team in Baghdad have expressed their support by signing a "Go Discovery" banner sent to them by his co-workers at the Center. The soldiers hope displaying the banner at Kennedy will send the message to the Discovery crew that Americans everywhere are behind them, even those serving their country in Iraq.

"There is great enthusiasm here for the upcoming Shuttle launch and great support for the space program, in general," says McQuade. "So even here in the middle of a war zone in Baghdad, Iraq, the Shuttle Program is closely followed."

THE "GO DISCOVERY" banner will be displayed at Kennedy Space Center, where Lt. Col. William McQuade (top row, second from left) works as an engineer. As an Army Reservist, he was deployed in January to Iraq and is serving with the U.S. Army's Judge Advocate General Corps. Pictured from left in the back row are: Spc. Rick Bennett, McQuade, Lt. Col. Bill Duddleston, 1st Lt. Davy Calkins (USAF), Lt. Col. Bill Stroud, Sgt. D.W. de Ganne, Maj. Todd Shattuck and Capt. Deanne Bryant. Pictured in the front row from left are: Ebel Shehab (translator), Sgt. Vanessa Ahrstrom, Capt. Eric Phillips, Capt. Brian Hilton (USAF), Capt. David Noteboom, Capt. Joseph Casabonne, Maj. Chris Lewis, Sgt. 1st Class Maier Reaves and Staff Sgt. Dominick Fernandes.

McQuade's presence at the U.S. Embassy Annex in Baghdad - headquartered in a palace of the former regime - has brought the space program to his fellow soldiers on a more personal level. "When people here find out that I am a NASA engineer who works on the Space Shuttle, they like to talk to me about the space program."

The soldiers' ability to express their support and feelings about their country's space program on the banner has been a morale booster. But it's also a way for the soldiers to thank McQuade's colleagues in Florida for the support they've shown through several care packages that have arrived in

(See TROOPS, Page 2)

Discovery attaches to new External Tank in VAB

SPACE SHUTTLE Discovery is back in the Vehicle Assembly Building and was attached to a new, modified external fuel tank to ensure a safe Return to Flight mission. Discovery entered the VAB May 26 at 4:30 p.m. The 4.2-mile trip from Launch Pad 39B lasted approximately 10 hours. The rollback was the 15th in Space Shuttle Program history.

Technicians de-mated Discovery from its External Tank (ET-120) and Solid Rocket Boosters, then attached ET-121 afterward. ET-121 was scheduled to fly with the Shuttle Atlantis on the second Return to Flight mission. In the VAB, a new heater was added to ET-121 on the feedline bellows.

The Kennedy Update

Jim Kennedy
Center Director

Hi, folks! I don't think we need to worry about drought conditions any time soon with all the rain lately. While it's welcome, especially for those with lawns, it's a stark reminder that hurricane season began 10 days ago. While I'm not an alarmist and I don't expect anything like last year to happen to our great state again, we simply can't play "ostrich" and pretend a major hurricane couldn't hit the Space Coast this year.

All the weather experts across the land are predicting another very active hurricane season. While we don't know where they may hit, I encourage everyone to have a hurricane kit and plan in place today.

If you haven't done so, hit the stores this weekend and get prepared. If you don't, when the Center goes into hurricane prep conditions, you'll be a "day late and a dollar short" on the preparedness side of the ledger.

Now, on to business at hand. I'm excited to see Discovery heading back out to the pad early next week. While we aren't quite there yet as far as a specific date, I believe things are shaping up quite well for a launch during the July window.

I know people have been working very hard, often on weekends, to get our Space Shuttle Program back on track. I want our Shuttle team to know that the rest of the Center, and indeed all of America, is behind you and can't wait to share in your success of a beautiful launch from the shores of KSC. GO DISCOVERY!

But before we get to the excitement of July, the GOES-N team is going to provide some excitement of its own June 23. This is when the GOES-N weather satellite that will assist the National Oceanic and Atmospheric Administration in future forecasting is slated to launch aboard a Boeing Delta IV rocket off the Cape.

Like all launches, a great deal of time and effort is spent getting everything just right. Now, with less than two weeks until launch, I know I speak for everyone when we wish the entire GOES-N team the best of luck with the launch.

> "We will take this opportunity to 'brag' about everyone at KSC and the tremendous work everyone does across the Center."

Next Friday is a neat day for the Center as we host the Brevard County Community Leaders breakfast at the Debus Center. We've literally invited hundreds of community leaders to come to KSC. We'll spend the morning highlighting all the activities of the past year and what lies ahead for KSC and NASA. Obviously, with Return to Flight at hand, their focus is on the launch, but we will take the opportunity to broaden their horizons.

In short, we will take this opportunity to "brag" about everyone at KSC and the tremendous work everyone does across the Center. It's times like these, when I step back a moment and collect thoughts and data on the previous year, that I am once again totally amazed by all that is done and accomplished here.

I wake up some mornings pinching myself that I get to work with such a tremendous group of people who make America's space program a better place than it was the day before.

My thanks to all of you for giving us "bragging rights." I am looking forward to June 17 to tell our community leaders all about your work. Have a tremendous week and don't worry, it has to stop raining one of these days (I think)!

May Employees of the Month

The NASA May Employees of the Month, from left, include: Frederick Adams, Spaceport Engineering and Technology, Phil Gvozd, Information Technology and Communication Services; Richard Quinn, Procurement Office; David Wiedemuth, ISS/Payload Processing; Fayann Hull, Safety and Mission Assurance; Ronald Storey, Center Operations; Eduardo Lopez Del Castillo, External Relations; Charles Walker, Launch Services Program; and Sandeep Wilkhu, Space Shuttle Program Launch Integration. Not shown is Alicia Mendoza, Shuttle Processing.

TROOPS . . .

(Continued from Page 1)

Baghdad.

McQuade is grateful for the impressive send-off he received at Kennedy just before his deployment. His colleagues arranged for him to meet the visiting Discovery crew, and the astronauts invited him to accompany them that afternoon for their scheduled events around the Center.

"Some of them are military, and most seemed to have friends or relatives either here (in Iraq) or in Afghanistan," says McQuade of the STS-114 crew.

McQuade's colleagues at Kennedy obviously think he's fully deserving of such a send-off.

"Bill is very special to us," says co-worker Janette Martin, "not just because he is one of our engineers, but also because he is a hero to us for what he is doing for our country and the Iraqi people, as well."

For his part, McQuade is humbled by all the attention.

"Right before I left, I told them that I don't deserve all the unexpected, and in my view, unwarranted, attention, since I am just one of tens of thousands who are over here serving their nation," he says.

But McQuade says that "the response was instantaneous and unanimous." It was the Kennedy employees' way of showing support for all the troops. "And so they continued to do all those terrific things for me, and now also for the entire Governorate Support Team."

In turn, his respect for the co-workers he hopes to rejoin by early next year is evident. "It is an incredibly humbling experience for me to work with such thoughtful, talented, creative, supportive and loyal friends."

Back at the Kennedy Space Center, those friends are making plans to display the banner for the crew prior to the launch of STS-114, so it can continue to inspire the encouragement and goodwill that has carried it around the world and back home again.

Shuttle Processing's Moore discovers a 'cool' solution

By Linda Herridge
Staff Writer

When Ted Moore was a child, he wanted to be an astronaut. Today, he's a lead engineer in the Environmental Control and Life Support Systems (ECLSS) division of the Space Shuttle Processing directorate.

"If I'm not flying in one, I guess you could say it's the next best thing to be able to work on the Space Shuttles," said Moore.

Recently, Moore and the ECLSS team completed work on a Freon coolant loop flow problem in Discovery during Return to Flight processing. Freon coolant loop lines are located in the aft and mid-body of each orbiter. Made of stainless steel, the lines provide a transfer medium to take the heat away from the vehicles' avionics systems, three fuel cells, auxiliary power unit and hydraulics systems, payload coolant loops and crew module water coolant loops.

A flow restriction was detected in one segment of the coolant lines during testing. The ECLSS team inspected the lines, analyzed data that was collected during flow tests, and used unique thermal tests to try to determine the location of the obstruction. They also took Freon samples and X-rays of the line.

Moore's group used temperature sensors placed on the cold plates in the aft Avionics Bays to monitor how temperatures responded during a five-hour period immediately following orbiter power up. Data collected during Discovery's flow testing was then compared with Atlantis' flow-test data and analytical data predicted by the design engineers.

Eventually, more than 100 feet of Freon coolant loop lines, filters, flow-rate sensors, flow restrictors and some of the cold plates were replaced in an effort to isolate and eliminate the flow restriction. Gold brazing was used to attach the new Freon coolant loop lines.

"It was a team effort involving our NASA, United Space Alliance and Boeing workers here, in Houston and in Huntington Beach, Calif., to develop the testing rationale to analyze and address all of the issues that caused the flow degradation," said Moore. "It's important to make sure that we're doing a safe and thorough job on all the hardware within these fluid systems."

Moore came to KSC in 1988 after working in research and development on the Space Defense Initiative in the U.S. Air Force at Vandenberg Air Force Base, Calif. He has worked in ECLSS for 15 years. Moore, a native of St. Petersburg, Fla., received a Bachelor of Science degree in Aerospace Engineering from the University of Florida and a Master of Science in Systems Management from the University of Southern California.

TED MOORE, a lead engineer in the Environmental Control and Life Support Systems (ECLSS) division of the Space Shuttle Processing directorate, helped solve a Freon coolant loop flow problem in Space Shuttle Discovery.

Moore says he's embracing Discovery's Return to Flight mission with open arms.

"It's been a long road. This extended downtime for requirements and certification reassessment has been an opportunity for us to excel," Moore said. "I think we're better and smarter now than before the accident."

Outside of the space program, Moore recently completed construction on a new home. He likes to play tennis and snow ski in the West when possible. He is married to his wife, Kelly, and they have three children, ages 4, 3 and 1. The family has enjoyed a new arrival – a Bichon Frise puppy – that requires much care and attention.

Electrical engineer Nguyen relies on teamwork for success

By Jennifer Wolfinger
Staff Writer

Lead Orbiter Electrical System Engineer Hung Nguyen has spent the past five years managing and executing a plan so workers can perform a baseline inspection of the orbiters' wiring to measure its integrity.

"Visual wire inspection is the best tool we have to detect wiring damage that may not be detected during functional testing," said Nguyen. He partnered with United Space Alliance and Boeing contractors to create the plan based on criteria developed by the Orbiter Wiring Working Group after STS-93.

HUNG NGUYEN, a NASA orbiter electrical engineer, teamed with United Space Alliance and Boeing employees to develop criteria for Space Shuttle wiring inspections.

"The critical failure mode that we hope to safeguard against is wiring damage that causes an 'arc-tracking' event," he said. "Kapton-insulated wiring is susceptible to a violent phenomenon known as 'arc track,' which could be catastrophic if it occurred on critical circuits."

Arc tracking begins when a damaged wire shorts out and carbonizes the insulation, which is made of polyimide material better known as Kapton. If the wire keeps shorting, it will ignite and burn along the wire bundle toward the source until the source is removed or the wiring is disintegrated.

Nguyen said he accomplished this important project through close collaboration with NASA, USA and Boeing orbiter electrical engineers and quality inspectors.

"We are a team, and through teamwork we overcame many technical challenges to improve the integrity of the orbiters' wiring system and improve the

(See NGUYEN, Page 7)

Black Employee Strategy Team welcomes s

THE 2005 Black Employee Strategy Team (BEST) Barbecue was held June 3 at KARS II (above), where good times and fellowship prevailed. The annual event is held to foster positive relations between the summer students participating in various programs and employees at the Center.

By Jeff Stuckey
Editor

The Black Employee Strategy Team (BEST) hosted the 2005 BEST Barbecue at the KARS II pavilion June 3 to welcome high school and college students involved in summer programs through the Kennedy Space Center and Cape Canaveral Air Force Station.

BEST committee member Tiffany Lackey thanked the crowd for braving rainy conditions and described the group's mission.

"BEST is an organization formed by KSC employees with a goal to support the Center's mission while ensuring African-Americans employees are united, informed and empowered to maintain, create and obtain equality and opportunities for individual development and NASA's success," she said. "Thanks to all the committee members, cooks and volunteers, and thanks for showing your support by coming out."

Space Gateway Support security employee Percy Spencer then sang a powerful version of "America the Beautiful," followed by a blessing of the food.

Attendees were treated to a delicious sampling of barbecue chicken and ribs, baked beans, potato salad, bread, drinks and a generous selection of desserts. Serving up generous portions with a smile were BEST members Roslyn McKinney, Stacie Smith, Joylene Hall, Dylyce Clarke, Terragena Jones, Debbie Houston and Kim Phillips, while Thomas Cooper, Al Jenkins and Bruce Lockley manned the grills.

"Despite the rainy weather, every year employees talk about the fabulous time they have at the BEST Barbecue and how much they look forward to them," said Smith, who has served as chairperson for the event the past four years.

"This year was no different. We were happy to see NASA and contractor employees and students join in our social environment where there was plenty of good food, entertainment and, of course, our infamous contests."

As employees and family members enjoyed the delicious meal, BEST chairman David Banks and committee members Dawn Elliott, Roger Rudig and Lorene Williams convened for the "Best Dessert" competition hosted by Truemilla Johnson. After sampling delicious cakes, cookies and creamy delights, Kathy Togliatti's Greek-styled baklava, a dessert made of paper-thin layers of pastry and chopped walnuts, won the inaugural event.

"The recipe was handed down to me from my mother-in-law, who learned it from her sister-in-law born in Greece," Togliatti said. "The main ingredients are phyllo dough, butter and walnuts. I'll be happy to share the recipe,"

Although rain cancelled some events, entertainment included a disc jockey, prize drawings and a karaoke contest.

CENTER DIRECTOR Jim Kennedy greets Vance Hanse
University, while Amy Jenkins, a summer intern attending

mes summer students with BEST Barbecue

WHILE ROSLYN MCKINNEY (center) collects food tickets, Stacie Smith, Joylene Hall and Dylyce Clarke serve another plate full of barbecue.

TERRAGENA JONES (left), Debbie Houston and Kim Phillips dish out chicken and ribs to employees at the 2005 BEST Barbecue held at KARS II.

MANNING THE grill are some of the BEST cooks, including from left, Al Jenkins, Thomas Cooper and Bruce Lockley.

TIFFANY LACKEY holds a ticket bag containing raffle names while Percy Spencer picks a winner. Spencer also sang a powerful version of “America the Beautiful” to kick off the barbecue.

greets Vance Hansen, a summer intern from Utah State
mmer intern attending Florida State University, looks on.

THIS YEAR’S BEST Barbecue featured the first “Best Dessert” contest, won by Kathy Togliatti for her Greek-style baklava. Judging the delicious samplings were, from left, Roger Rudig, Dawn Elliott, BEST Chairman David Banks and Lorene Williams.

MIT team produces winning design at exploration event

The team of students from the Massachusetts Institute of Technology designed a space-exploration tool to win the NASA/Florida In-Situ Resource Utilization (ISRU) university design competition, held May 25 at the Visitor Complex's Debus Center.

The design showed an instrument that would excavate and process lunar regolith to detect the presence of water ice and demonstrate the feasibility of producing oxygen on the Moon.

The MIT team beat out other ISRU finalists from the Colorado School of Mines, Florida Institute of Technology and Purdue University.

"I'd like to congratulate the MIT team for an excellent design that combined the talents of students from engineering, physics, chemistry and other disciplines," said Dr. Sam Durrance, a former astronaut and executive director of the Florida Space Research Institute (FSRI). "I know these students will go on to become leading engineers and scientists, hopefully in support of the Vision for Space Exploration."

The teams were asked to design their experiments within a list of constraints based on NASA plans for a future robotic mission to a permanently shaded crater on the Moon's southern pole. The constraints included mass and power limitations, such as a 100-watt power budget. Each of the finalists won $12,000 from NASA and FSRI to develop their designs, as well as a trip to the 1st Space Exploration Conference in Orlando, provided by Lockheed Martin Corp. The winning team won an additional $1,000 from FSRI.

JASON ATKINS (left) and Emmanuel Sin from the Massachusetts Institute of Technology present their competition-winning design that would extract and process lunar regolith on the Moon. Above, Gregg Buckingham, chief of KSC's Education Programs and University Research Office, tell the students they are involved in the activities that will help NASA advance the Vision for Space Exploration.

"You all are involved in the mainstream of what NASA is doing in the Vision for Space Exploration," said Gregg Buckingham, chief of KSC's Education Programs and University Research Office. "This competition has always looked toward the future and where the Agency is headed."

The competition was part of NASA's Regolith and Environment Science and Oxygen and Lunar Volatile Extraction (RESOLVE) project, managed jointly by Johnson Space Center in Texas and Kennedy Space Center. FSRI administered the national competition with co-sponsorship by the Florida Space Grant Consortium.

Center to mentor five new NASA Explorer Schools

Five out of 50 new NASA Explorer Schools (NES) recently joined Kennedy Space Center's education effort. As the heart of NASA's unique education program, NES reaches elementary-to-high-school students in all 50 states, Puerto Rico and Washington, D.C.

The NES program establishes three-year partnerships annually with 50 schools. The partnerships include students, teachers and education administrators serving grades four through nine, from diverse communities across the country including high poverty and minority communities. Schools in the program are eligible to receive grants up to $17,500 over the three-year period to support student engagement in science and mathematics.

KSC's schools include Warrington Middle School in Pensacola, Fla.; Howard Middle School in Orlando, Fla.; South Plantation High School in Plantation, Fla.; Goldsboro Elementary Magnet School in Sanford, Fla.; and Marcelino Canino Canino Middle School in Dorado, Puerto Rico.

The effort promotes the use of NASA programs to address the teams' local needs in mathematics, science and technology education. The schools have access to unique NASA resources and materials to help them learn about careers with the Agency. For more information, visit **http://explorerschools.nasa.gov**.

Camp KSC offers children chance to explore

Camp Kennedy Space Center offers children an out-of-this-world experience to explore space as never before this summer. Regular tuition is $280 per child per session, with a 10 percent discount for badged employees and contractors of Kennedy Space Center, Cape Canaveral Air Force Station, Patrick Air Force Base and retired KSC personnel.

Camp KSC is designed for children entering second through ninth grade and five-day sessions are held weekly through August 12. The camp is based at the Astronaut Hall of Fame. Summer day camp hours are from 9 a.m. to 4:30 p.m. with extended early drop-off and late pick-up hours available. Campers receive lunches and afternoon snacks, an official Camp KSC T-shirt and other gifts. For more information and registration details, call (321) 449-4444 or visit **www.KennedySpaceCenter.com**.

THESE STUDENTS simulate a NASA mission at Camp KSC.

Kennedy's Remediation Program heals damaged areas

By Charlie Plain
Staff Writer

One of the greatest benefits of America's ongoing reach into space is the enhanced awareness of our own planet's environmental health. Taking the lessons learned to heart, Kennedy Space Center's Remediation Program is healing land damaged by five decades of operations and processing associated with groundbreaking rocket launches.

Beginning in the 1950s, Cape Canaveral's shores emerged as the center of development for the U.S. space exploration program. Although it was an era of incredible scientific achievement, people were unaccustomed to thinking about environmental conservation.

The process of building and launching rockets for Americans to journey through space required the use of strong, toxic chemicals. Substances like chlorinated solvents used to clean Apollo rockets inadvertently contaminated soil and groundwater around the area.

Today, work is under way around KSC to restore contaminated areas to their natural health. The job of identifying these sites falls to the Remediation Program.

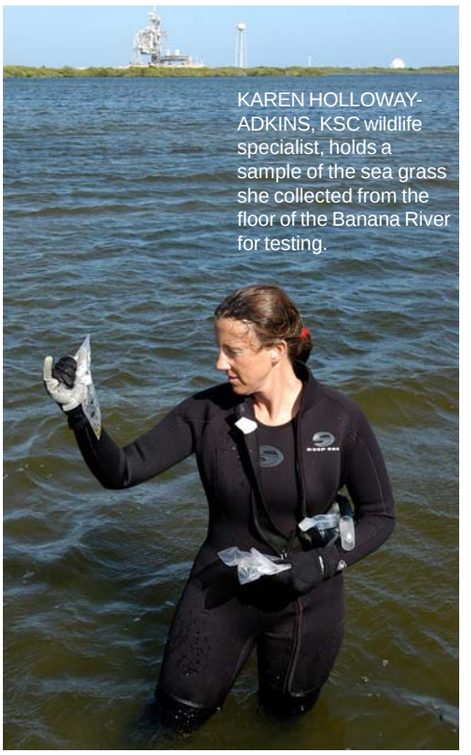
"We investigate and clean up contaminated sites on the Center," said Harold Williams, Kennedy Space Center's Remediation Program manager. Williams works with a team of five other engineers to discover polluted locations. "We go into biased locations where we think there may have been some sort of spill, tank (containing chemicals) or documented release."

After finding a site, and possibly removing tainted soil, the remediation team takes routine measurements to check the area's level of groundwater contamination. Technicians install groundwater monitoring wells to check the water condition.

If the contaminant level is low and decreasing, the site is simply monitored to ensure the trend continues. However, areas that prove stubborn and fail to purify on their own may require more dramatic physical intervention.

"If it begins to flatline and not make progress, we may have to reevaluate and maybe do something more aggressive," said Williams. This could mean treating the site with helpful chemical and biological agents or even installing a common groundwater treatment system.

However, before moving ahead with a heavy-hitting approach, Williams tries it out on a small portion of the contaminated area. "We'll do a pilot test and then based on the results, we may expand to full-site implementation and closely watch for positive results," he said. Kennedy's initiative to clean up its contaminated areas is part of its commitment to environmental stewardship.



KAREN HOLLOWAY-ADKINS, KSC wildlife specialist, holds a sample of the sea grass she collected from the floor of the Banana River for testing.

While rockets are designed to function in the vacuum of space, the Center recognizes that their use also impacts environments here on Earth. The action not only shows respect for the planet we call home, but also worlds beyond.

Houston, LeBlanc garner NASA Public Service Medals

Dan Houston (top photo in middle), ODIN program manager for Lockheed Martin, and **Dan LeBlanc** (bottom photo in middle), president and chief operating officer of Delaware North Companies Parks and Resorts at KSC, Inc., have received the NASA Public Service Medal. The medal is one of the highest honors the Agency awards to non-government employees. It was conferred by Fred Gregory (left), deputy administrator for NASA, and James Jennings, NASA's associate administrator for Institutions and Management during a ceremony at NASA Headquarters.

Houston was recognized for outstanding leadership and contributions to the Office of Space Flight Outsourcing Desktop Initiative for NASA delivery orders.

LeBlanc was honored for his progressive leadership and creative contributions to the NASA mission and public visitor program in his role at the KSC Visitor Complex.

NGUYEN

(Continued from Page 3)

safety margin," he said.

Aside from this role, he identifies process improvements for orbiter wiring maintenance, continually analyzes wiring trends and requirements and builds partnerships with industries and academia to improve wiring design and damage detectability. Nguyen also represents KSC in resolving wire-related issues and is responsible for the wiring system's Certificate of Flight Readiness.

Nguyen has been a NASA employee for 16 years. "I am overwhelmed with great pride, humbled by NASA's life-changing accomplishments, and proud to be associated with the men and women of KSC and all of the NASA family," said Nguyen.

His personal life is filled with golfing and spending time with his wife, Cattien, and daughters, 14-month-old Catlinh Ann and six-week-old Cathi Emily.

GOES Program improves weather forecasting, quality of life

The Geostationary Operational Environmental Satellite (GOES) Program is a joint effort of NASA and the National Oceanic and Atmospheric Administration (NOAA). Currently, the GOES spacecraft system consists of GOES-12, operating as GOES-East, and GOES-10, operating as GOES-West.

GOES-N, targeted to launch June 23 from Launch Complex 37 at Cape Canaveral Air Force Station, will complement this system and help meteorologists observe and predict local weather events, including thunderstorms, tornadoes, fog, flash floods and other severe weather. In addition, GOES observations have proven helpful in monitoring dust storms, volcanic eruptions and forest fires.

The benefits of GOES that directly enhance the quality of human life and protection of Earth's environment include: supporting the search and rescue satellite aided system; contributing to the development of worldwide environmental warning services and enhancements of basic environmental services; and improving the capability for forecasting and providing real-time warning of solar disturbances.

The next series, GOES-N/O/P, has several new, top-level capabilities. These will provide expanded measurements for the space environment monitoring instruments; a new dedicated channel for the Emergency Managers Weather Information Network; and most importantly, a more stable platform for supporting the improved Imager, Sounder and X-ray imager instruments.

The Imager produces images of the Earth's features, such as the oceans, severe storm development and cloud cover. The Sounder provides meteorologists with a detailed description of conditions in the atmosphere at any time.

Each satellite in this series will have a suite of several instruments.

The energetic particle sensor includes the Energetic Proton, Electron and Alpha Detector, and the Magnetic Electron Detector. These sensors measure the radiation environment at geosynchronous altitude.

The Magnetometer, mounted on the end of an 8.5-meter boom, measures the magnitude and direction of the Earth's geomagnetic field. Three instruments are mounted on the solar array yoke to gather data from the Sun. They are the Solar X-ray Imager, X-ray Sensor, and Extreme Ultraviolet Sensor.

The reaction wheels are used to make the on-orbit satellite a stable platform for the instruments. The UHF and S-/L-band antennas provide communications with ground networks for command, telemetry, data, and search and rescue.

AT ASTROTECH Space Operations in Titusville, engineers from Boeing Satellite Systems (left) conduct final inspections of the GOES-N spacecraft. They are looking at the solar panels. At right, employees check the fairing that will encapsulate the GOES-N spacecraft for launch.

Begin training now for Summer Indoor Triathlon

The Summer Indoor Triathlon is an enjoyable way to challenge yourself. The KSC Fitness Centers invite you to participate in the 4th Indoor Triathlon, with two different levels offered.

• **Masters Series**: This is a competition in either the indoor sprint or distance triathlon, and you exercise non-stop from event to event. Even your rest time counts.

• **Novice Series**: Complete either the sprint or distance triathlon events on a separate day and add all three of your best times together at the end.

You can either compete in the individual sprint or distance triathlon, or the team (co-ed, all male or all female) sprint or distance triathlon. The Indoor Sprint Triathlon consists of five miles on a stationary bike, 1,000 meters of rowing and a two-mile walk/run. The Indoor Distance Triathlon consists of 10 miles on a stationary bike, 2,000 meters of rowing and a 3.1-mile walk/run.

The event will run from July 1-29. Call the Fitness Centers for more information (O&C: 867-7829; OSB: 861-2133).

Fishing opens at Camera Road A

Fishing is now open at Camera Road A on the Cape Canaveral Air Force Station, in addition to Camera Road B, and Cx 34. The NASA Causeway is open for non-motorized boats only. Fishing is authorized for one badged employee and two unbadged guests during daylight hours. The badged employee must possess a cell phone.

Fishing placards are available at PIDS 1 on CCAFS (located prior to the Main Gate on State Road 401) and PIDS 3 on KSC (located on State Road 405, by the Astronaut Hall of Fame) during operating hours and at any perimeter gate when the PIDS are closed. Fishing area maps are located on the back of the placard. Personnel on the beach must have a fishing pass and remain within 1/4-mile of the authorized fishing area, including personnel walking on the beach. Fishing in Port Canaveral is controlled by the dock master. Call 730-1275 for information about fishing in the port.

John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, IDI-011. E-mail submissions can be sent to Jeffery.Stuckey@ksc.nasa.gov

Managing editor. . . . . Bruce Buckingham
Editor. . . . . Jeff Stuckey
Copy editor . . . . . Corey Schubert

Editorial support provided by InDyne, Inc. Writers Group.
NASA at KSC is located on the Internet at http://www.nasa.gov/centers/kennedy
USGPO: 733-049/60083